

Title (en)  
WIRELESS COMMUNICATION MODULE

Title (de)  
DRAHTLOSKOMMUNIKATIONSMODUL

Title (fr)  
MODULE DE COMMUNICATION SANS FIL

Publication  
**EP 3965303 A4 20220518 (EN)**

Application  
**EP 20842544 A 20201214**

Priority  
• JP 2020122027 A 20200716  
• JP 2020046499 W 20201214

Abstract (en)  
[origin: US2022021102A1] A wireless communication module includes a wireless module board, a frequency converter, an amplifier phase shifter, a band-pass filter, and a communication board, and a through-hole, which penetrates in a direction in which the wireless module board and the communication board are aligned, is formed at a portion of the communication board to which at least one of IC chips of the frequency converter and the amplifier phase shifter faces, and the band-pass filter is covered by the communication board.

IPC 8 full level  
**H04B 1/036** (2006.01); **H04B 1/38** (2015.01)

CPC (source: CN EP US)  
**H01Q 1/02** (2013.01 - US); **H01Q 1/2283** (2013.01 - EP US); **H04B 1/036** (2013.01 - EP US); **H04B 1/0475** (2013.01 - US);  
**H04B 1/40** (2013.01 - CN); **H05K 7/20** (2013.01 - CN); **H05K 7/2039** (2013.01 - CN); **H01Q 1/02** (2013.01 - EP); **H04B 1/0475** (2013.01 - EP);  
**H04B 2001/0408** (2013.01 - EP US)

Citation (search report)  
• [A] US 2019191546 A1 20190620 - FUJII TOMOHARU [JP]  
• [A] US 2017273173 A1 20170921 - IKUTA TOMOHIRO [JP]  
• [A] US 2020185342 A1 20200611 - DALMIA SIDHARTH [US], et al  
• See references of WO 2022014066A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**US 11245177 B1 20220208; US 2022021102 A1 20220120**; CN 114208044 A 20220318; CN 114208044 B 20230120; EP 3965303 A1 20220309;  
EP 3965303 A4 20220518; JP 7098820 B2 20220711; JP WO2022014066 A1 20220120

DOCDB simple family (application)  
**US 202017263623 A 20201214**; CN 202080004163 A 20201214; EP 20842544 A 20201214; JP 2021504849 A 20201214